New York Notebook, N-85-05-22

This notebook covers the period May-November 1885. All of the entries are by Edison except for one entry on the telephone by Ezra T. Gilliland. Edison's notes and drawings relate to the preparation of nitrogen compounds, the extraction of oxygen from the air, and the production of artificial silk. There are also calculations about the phonoplex, witnessed by John F. Ott, and a set of drawings labeled "Thermo." The spine is labeled "23." The book contains 292 numbered pages.

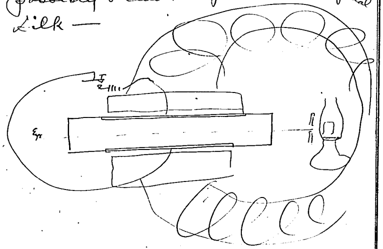
Blank pages not filmed: 30-33, 72-95, 100-292.

x E-172

No 40987
ARTHUR & BONNELL
MANUFACTURERS
55 CEDAR STREET
New York

May 22 1885

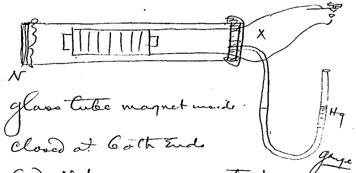
I propose to form some new nitrogen Compounds by Electrolysing different Electrodes Coated with various substances capable of being nitrogenized - using Ammonia as the Electrolyte. Thus giving off ~~an~~ Nacent Nitrogen by Secondary Action - possibly I can thus produce artificial Silk —



Produces a pressure on the Liquid a la ~~Hg~~ amperemeter + alters the ray of light perhaps should be palarized

May 22 1885

Process for preparing · Oxygen



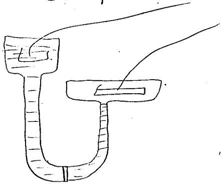
glass tube magnet inside
closed at both Ends
End N has porous material
say bladder - Stucco etc
fitted air tight = Oxygen
being magnetic is drawn
through the pores while
nitrogen is neither Magnetic
or Diamagnetic being absolute
Zero =

Red hot platinum for porous
filter also Cocoanut Charcoal
Carbonized paper charcoal - Etc

May 22 1885

The magnet may condense the gas already in and produce a movement of the diaphragm - idea for telephone or teleghic instrument

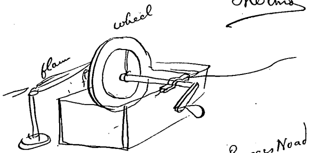
Standard Emf =



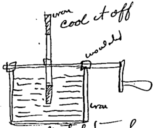
Water (distilled) passing through meershaum plug by gravity give Emf - plat Electrodes =

May 22 1885 TAE

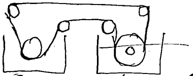
Thermo



See Preeces Noad p 406.

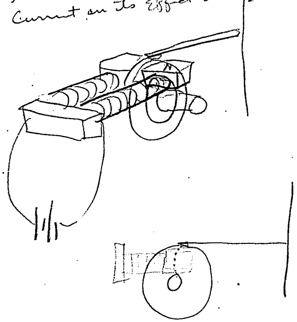

iron
cool it off
wood
iron
metal trough

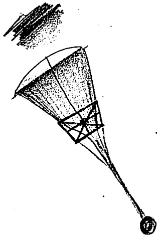
fused salt Borax say


Cold
Hot water

May 28 1885

on Emg - powerful constant field
attracts current in direction
rotation thus aiding regular
Current on its Effect on H2O Capillarity





Louisville

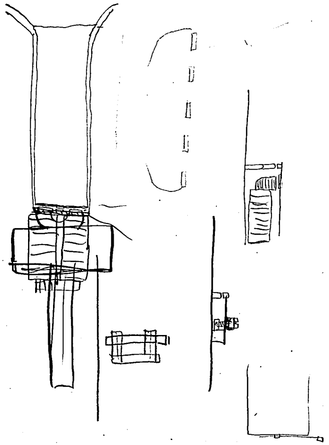
Louis

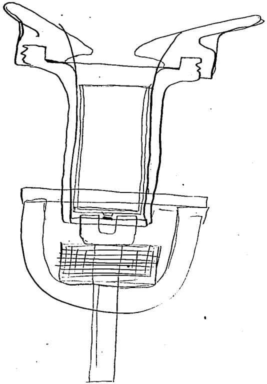
Louisville is the main city in

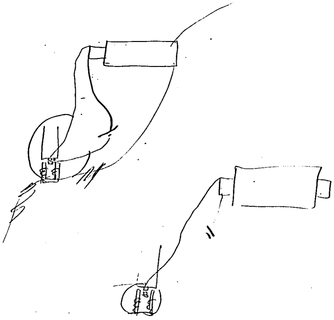
now by Saint Paul my golden dream is out

L

now is the winter of our discontent

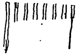






4 X 5

6 count both sides



7

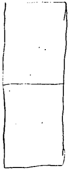
12/500(41·6
48
20
12
80

·12/500 ∴ ·025

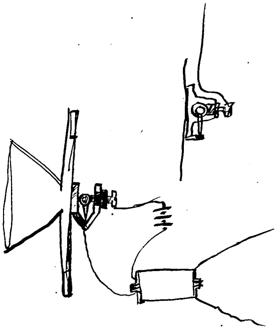
7·6
480.
40
520.

500/1200(2
00

0.25 ∴



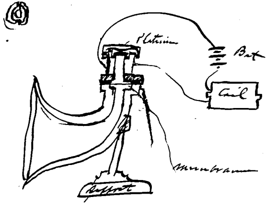
Oct 6th 1885



Entire mechanism to be attached to the diaphragm - Casting made so that a metal ball will rest on a pointed leg at the bottom and vibrate between a solid anvil on the diaphragm and an adjustable Contact point behind it -

Continued from page 23

object being to preserve the adjustment against the bulging of the diaphragm due to wind puffs or other causes— another plan for accomplishing same end ~~will~~ is shown below

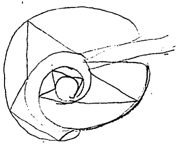

d
Platinum
Bat
Coil
membrane
support

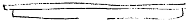
a small membrane is introduced into the mouth piece down near the end where the chamber becomes very small so that nothing except

Continued from 25

pure sound waves reaches the small disc of platinum - this also prevents the contact point from fouling from moisture, breath, or other causes - The platinum point is made to bridge across the two Electrodes a Rubber cap is screwed down over the upper End which serves double purpose of a cover protector and an adjustment - Think the best results obtained from transmitter with opening about 3/16 inch Diameter -

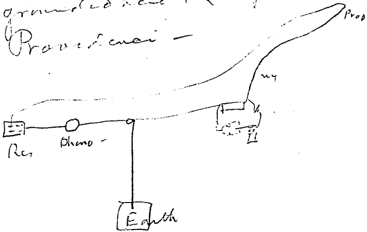
EJ Gilliland
Oct 6th 1880





Nov 10 1885 J F Ott

Phonoplex Experiments on proportioning Coils made on Boston Telephone Line grounded here & looped at Providence —


Prov
ny
Res
Phono -
II
Earth

Nov 10 1885 John F. Ott

Phonoplex Expts Contd

7 ohm Coil — 1 cell battery
no Condenser — no res nothing dont move
reg weight. 2½ mf condr makes ~~it~~ growl —

2 cells imperfect writing 70 sheets condsr
writing good — no res just in margin

3 cells. 200 ohms writg good — no condsr
85 sheets get it thro 900 ohms —

4 cells 600 ohm no condr 1400 ohms
with 85 sheets,

5 Cells 400 ohms — 1400 ohm with
85 sheets —

Over

Nov 10 1885 — J. F. Ott
Phonoplex Expts

17 ohm Coil - primary only -
no res no Condr nothing 85-sheets ntq

2 Cells growls no res no Condr - -
Condr weakens it so no growling

3 Cells - just get fair writing only no
Res no Condr Condr weakens it,

4 cells 600 ohms Condr weakens

5 Cells - 800 ohms Condr weakens

2-17 ohm Coils Multiple arc'd —

1 Cells ntq growls with 85-sheets Condr
2 cells - just get it no res. 85-sheets
200 ohms;
3 cells 400 ohms no Condr 85-sheets
600 ohms
4 cells 1000 ohms no Condr — 1400
ohms with 85-sheets

Nov 10 phonoplex — E
J.F.Ott Continued

2 - 17 ohm Coils multiple arcd
+ battery multiple arcd ⑩
Cells ½ Res each - so as to run
from 1 to 5 cells each of ½ the
internal Res —

1 big cells not q got it shaky with 85 Sheets
no res -

2 big cells — little shaky no res --
85 sheets ok Thro 300 ohms -

3 Cells - 500 ohms - 1000 ohm
with 85 - Sheets

4 Cells — 1200 ohms - 1400 ohms
on 85 - Sheets -

Nov 10 1885

J. F. Ott Phonoplex contd

2 - 7 ohm Coils multiple arcd.

Double size battery

4 cells ok no res 1000 ohms - 85 sheets -

3 cells - ok no res 800 on 85-sheets

Single battery -

Diff coils - longer than 7 ohm coils about inch - iron twice dia -

Res .48 Res, 4 layers -

1 Cell - notg on no res notg on 85 sheets -

2 cells - ntg on no res growls on 85-sheets -

3 cells - notg on no res growls better on 85-sheets

4 cells - ntg on no res ng on 85 -

J F Ott

Nov 10 1885 Phonoplex Contd

Big Coil. using primary only
Res 4.25 ohms. marked No 1.
1200 ohms 4 cells No Res
72 sheets Condr 1800 ohms
3 cells 300 ohms no condr
900 ohms -
2 cells - little shaky w no res
400 ohms on 72 sheets -

---

another large Coil -
No 2 - using primary only
Res primary 6.05 shorter coil
¼ amount iron core -
2 cells grounds slightly 85 sheets
writing only fair -
3 Cells no res just get writing
300 ohms with 85 sheets -
4 cells 100 ohms no res 400 ohms
with 85 sheets -

J F Ott Nov 10 1885 Phonoplex Contd

Another Big Coil No 3

Res primary 4.125 – 3/4 inch iron Core –

4 Cells 400 ohms no res 1200 ohms with 85 sheets

3 cells – 200 ohms no res 600 ohms with 85 sheets –

Big Coil No 4

primary only used Res. 1.23,

3 cells weaken no res 300 ohms on 85 Sheets,

4 cells – weaken no res 300 on 85 Sheets –

Nov 10 1885—
J. F. Ott Phonoplex Continued,

Big Long Coil— broken wooden
Ends— Res primary 1.37
4 Cells 400 ohms no Condr ~~for~~
1400 ohms 85-Sheets =

Same Coil using Secondary 64
ohms in Line—
4 Cells 600 no res— 1200 with
85-sheets,

Coil No 4. using Secondary
to Line— Res secondary— 77½
ohms—
4 Cells—growls at no res— 85-sheet
300 ohms—

Nov 10 1885 TAE—
J.F.Ott Phonoplex Continued

No 1 Coil using Secondary in line Res Secondary ~~30~~ 78 ohms

4 Cells - weaken no res 85-sheets.
300 ohms

No 3 Coil
Secondary to line - Res
Secondary - 78 -
4 cells; weak no res - 85 sheets
300 ohms

No 2 secondary to line Res Secy
75 ohms grounds no res 300
ohms 82 sheets —

Nov 10 1885
J.F.Ott TAE Phonoplex—

The two 7 ohm Coils in series Reg way

4 Cells 200 ohms 40 sheets. 600 ohms

5 Cells 800 ohms no Conds
1100 with 32 sheets

6 Cells 1000- no Conds - 1600
32 sheets,

Long coil .41 No 7 -
4 Cells just grounds with 72 sheet

Nov 10 Phonoplex. J. F. Ott

Experiment on jumping weights
7 ohm Coil reg 4 on line —
Condsr plug 1000.
72 sheets Condr -

Ring split 700.
flat ring 600
6

1000

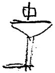
800

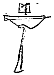
1000

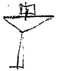
The small weight on weak current needs no Cond
only heavy weight on strong ckts improved by Condrs —

Nov 10 1885 TAE J.F. Ott

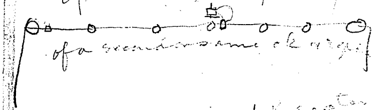
Principles



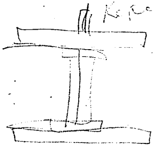




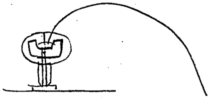
The rubber tubing [illegible] op
opens & closes the following

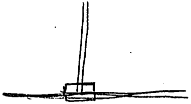


of a secondary same charging,



J. T. Ott

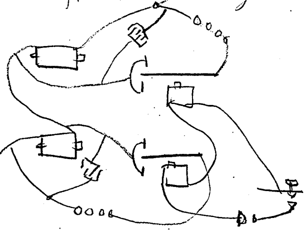




Nov 10 1885

Phanoplex TAE

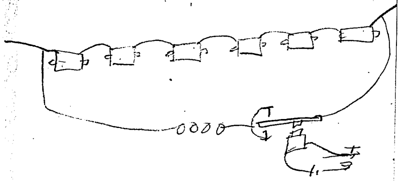
J. F. Ott

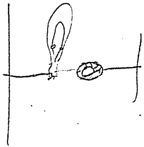


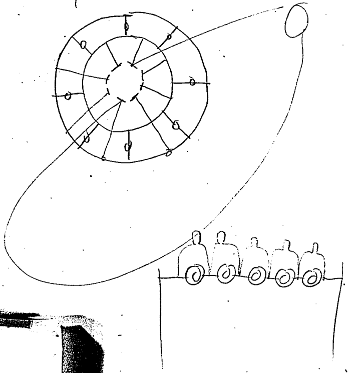
Dont improve but little

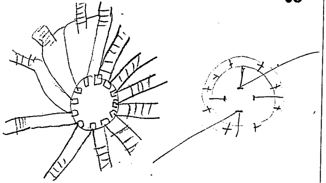
Tried 11 .48 primaries, 4 Cells
no better than the single 70h;
on break ckt use light weight
or no weight at all & if no weight
at all use no condenser as it
weakens it greatly

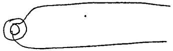
Nov 10. 1885
J. F. Ott

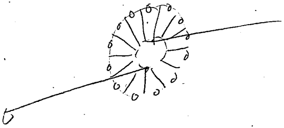


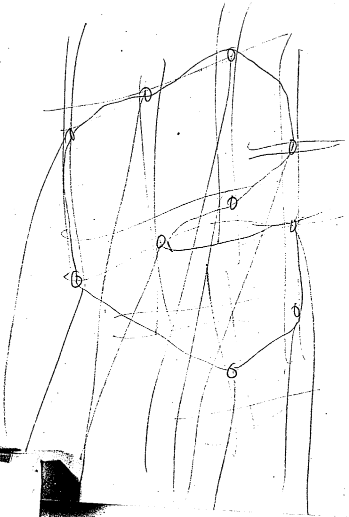


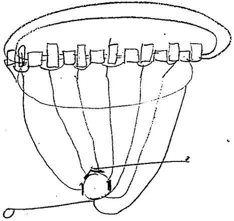


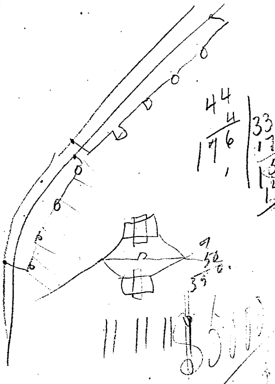








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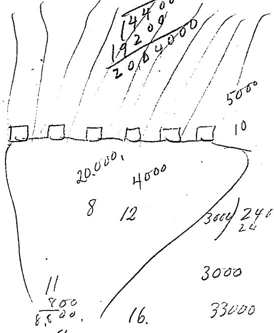
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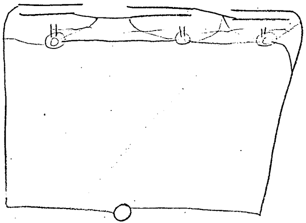

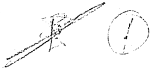

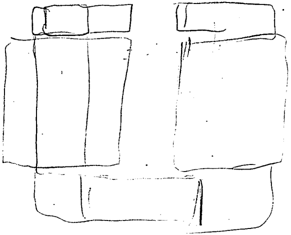

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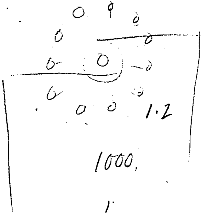

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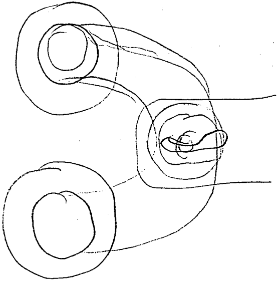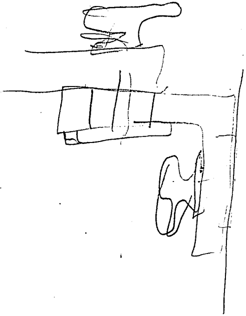13
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